

The ECS-2520MV is a miniature SMD HCMOS Oscillator with MultiVolt™ capability of 1.6 ~ 3.6 V. The 2.5 x 2.0 x 0.8 mm ceramic package is ideal for LoRa WAN, Low Power/Portable, Industrial and IoT applications.

[Request a Sample](#)

### OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS



- 2.5 x 2.0 mm Footprint
- Extended Temp Range
- RoHS Compliant
- Wide Supply Voltage
- Low Jitter
- Compatible with 1.8V, 2.5V or 3.3V Power Supply

PARAMETERS	CONDITIONS	ECS-2520MV			UNITS
		MIN	TYP	MAX	
Frequency Range		0.750		160.000	MHz
* Frequency Stability	-40 ~ +85°C (BN Opt)			±50	ppm
Supply Voltage		1.6		3.6	V
Output Load	CMOS			15	pF
Output voltage Level	VOL: 10% Vdd max. / VOH: 90% Vdd min. V DC				
Rise & Fall time	10% Vdd – 90% Vdd			7	ns
Start Up Time	@ 90% Vdd			5	mS
Phase Jitter	12 kHz to 5 MHz			1	pS
Duty Cycle	@ ½ Vdd			45/55	%
Standby Current				10	µA
Operating Temp*		-40		+85	°C
Storage Temp		-55		+125	°C

### CURRENT CONSUMPTION mA Max

FREQ.	~ 19 MHz	~ 39.9 MHz	~ 50 MHz	~ 60 MHz	~ 160 MHz
+1.8V	2.5	3.0	3.5	4.0	40
+2.5V	4.5	5.5	6.5	7.0	40
+3.0V	5.5	6.5	7.5	8.0	40
+3.3V	6.0	7.0	8.0	8.5	40

### DIMENSIONS (mm)

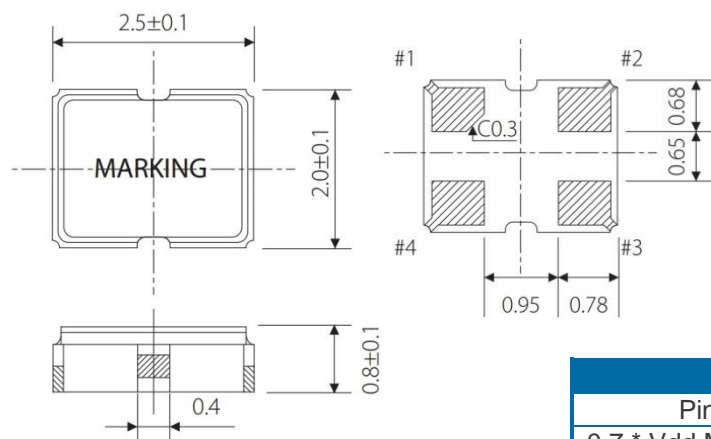


Figure 1) Top, Side, and Bottom views

PAD CONNECTIONS	
1	Tri-state
2	Gnd
3	Output
4	Vdd

Tri State Function	
Pin 1	Output
0.7 * Vdd Min or NC	Active
0.3 * Vdd Max.	High Impedance

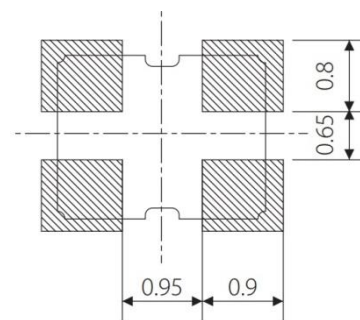


Figure 2) Suggested Land

### PART NUMBERING GUIDE: Example ECS-2520MV-250-BN-TR

ECS	-	SERIES	FREQUENCY ABBREVIATION	-	* STABILITY	TEMP RANGE -	PACKAGING
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ECS

2520MV  
2.5 x 2.0 mm  
MultiVolt™ Oscillator

250 = 25.000 MHz  
See Developed  
Frequencies Pg.2

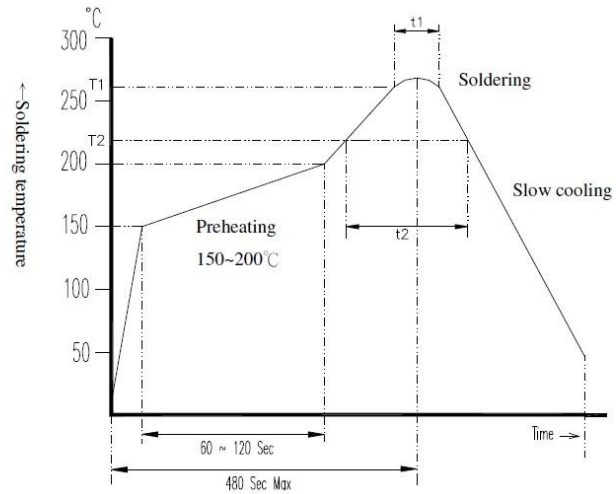
A = ±100 ppm  
B = ±50 ppm  
C = ±25 ppm  
D = ±20 ppm

L = -10 ~ +70°C  
M = -20 ~ +70°C  
N = -40 ~ +85°C

-TR = Tape & Reel  
3K/Reel

## DEVELOPED FREQUENCIES

FREQUENCY MHz	CODE
4.000	040
8.000	080
12.000	120
16.000	160
24.000	240
25.000	250
26.000	260
32.000	320
33.3333	333.3
48.000	480
50.000	500
100.000	1000
125.000	1250



Application / Temperature Time	T1 / t1	T2 / t2
Lead Free	260 ± 5°C / 10 ± 5 Sec Max.	217°C Min / 60 ~ 150 Sec
Non-Lead Free	260 ± 5°C / 10 ± 5 Sec Max.	183°C Min / 60 ~ 150 Sec

## SOLDER PROFILE

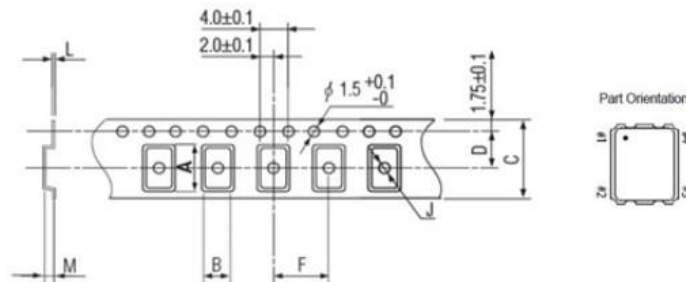
Peak solder Temp +260°C ±5°C 10 ±5 Sec Max.

2 Cycles Max.

MSL 1, Lead Finish Au

**Figure 3)** Suggested Reflow Profile

## POCKET TAPE DIMENSIONS (mm)



A	B	C	D	F	J	L	M	Reel Dia.	Qty/Reel
2.8	2.3	8.0	3.5	4.0	1.0	0.25	1.1	180	3000pcs

# Mouser Electronics

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## ECS:

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